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## The Future of Internal Audit Profession: Scenario Analysis Method

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### ABSTRACT

**Background and Objectives:** Future research reflects how the reality of “tomorrow” is born from the changes (or stability) of “today.” The uncertainty regarding the future justifies some lack of foresight and presents a precious opportunity for others. As is known, an internal audit (IA) is performed by controlling financial resources in organizations and companies to prevent financial problems and errors, as well as their consequences. This study investigates the future trajectory of IA to preemptively address potential challenges, anticipate forthcoming developments, and formulate strategic responses. **Design/methodology/approach:** A general outline of the future of IA was outlined using the scenario analysis method. The invited participants from the public sector, including university professors, researchers, and IA directors (2020), were selected as a cluster, totaling 30 participants. They exchanged views through the formation of specialized working groups, leading to the outcomes of the workgroup. **Findings:** Based on cluster and scale analysis methods, five possible scenarios were outlined regarding the state of the IA profession. The results of the research indicated that the propulsion of laws will play the most significant and effective role in the future of the IA profession, followed by the development of IT platforms for IA. **Originality/value:** The findings of the present study will enhance IA among its stakeholders by predicting possible events and providing solutions to eliminate them in the form of five scenarios.

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## Introduction

In an era where businesses must continuously adapt to shifting models, evolving regulatory landscapes, technological advancements, and increasing cybersecurity threats, the internal audit function must similarly evolve (Azad et al., 2021). Although IA does not bear sole responsibility for risk management within organizations, it provides critical, unbiased evaluations of internal controls, corporate governance structures, and business operations (Salehi Ghasempour, 2021). By educating board members and executives about business risks and their implications, IA facilitates the early detection and remediation of issues before they escalate to external audits.

As technology and data integration become ubiquitous across modern organizations, IA departments can no longer function in isolation. To effectively mitigate risks, enhance controls, and identify inefficiencies, IA teams must broaden their competencies and collaborate with other organizational units. While 2020 has already brought significant changes to the audit industry, 2021 presents an opportunity for even greater transformation. Below are the event trends we expect to witness in the IA world in the future.

Empirical evidence underscores that internal auditing is fundamental to effective corporate governance (Gramling, 2004). The Internal Audit Function (IAF) serves as a vital safeguard against organizational risks and plays an integral role within an organization's accounting information system. Despite its importance, internal auditing has received comparatively limited academic scrutiny relative to other facets of corporate governance, such as audit committees and external auditors. DeFond and Zhang (2014) argue that IA research remains nascent. Behrend (2019) points out the lack of studies in the leading accounting journals that delve into IAF practices at a granular level. Roussy (2018) notes that existing research on internal auditing is far from exhaustive. While certain topics have been explored in multiple studies, many areas—particularly those concerning innovative internal audit practices involving technology—remain under-researched. Consequently, this paper aims to stimulate further academic inquiry into internal auditing by identifying promising research areas based on significant current and emerging trends in the field (Christ, 2020).

Internal auditing (IA) serves as a vital tool for top management within organizations, facilitating the enhancement of innovative management strategies through actionable recommendations (Christ, 2020). The primary objective of IA activities is to empower management in making informed business decisions that ultimately drive organizational success (Penini Carmeli, 2010). By ensuring that reports from various sectors of the enterprise are reliable and precise, IA contributes to an overall improvement in organizational performance (Vukaosović, 2015; Popović, 2015).

The internal audit process begins with the design and preparation of audit reports that guide the execution of audit activities within the organization (Popović, 2014, 2015; Moradi et al., 2020). This foundational work underscores the potential for enhancing the operational effectiveness of enterprises (Bojović, 2019; Popović, 2015; Rodriguez, 2019). When internal auditors meticulously craft audit reports based on their findings and recommendations, these reports are submitted to senior management, providing critical insights for decision-making. Adherence to standardized auditing procedures is paramount, ensuring that internal audit processes align with the reporting requirements set forth by top management (Terzić, 2019).

The outcomes of internal auditors' accepted behavior contribute to the change of the sector's overall behavior in companies and economic branches. It plays a part in the change of consciousness in the economy as a whole within a country. Further, it can improve and change the economy's socio-economic behavior as a whole (Lee, 2019) for the better as the economy operates with a higher dose of security and precision (Salehi & Bahrami, 2017). Therefore, it can be noted that it is essential for the IA business to properly formulate and prepare IA reports for the company as it facilitates making sound management decisions by top management (Endaya, 2013; Gaetano, 2019; Daske, 2008).

The landscape of Internal Audit (IA) is undergoing significant transformation, particularly in its approach to addressing the challenges and complexities posed by modern organizational structures, especially within emerging economies and diverse organizational contexts. The existing literature on IA, predominantly shaped by studies centered in the United States, has largely neglected private small and medium-sized enterprises (SMEs) and non-profit organizations, both of which are vital components of the global economy (Kotb, 2020). This oversight underscores the necessity for a more expansive perspective in future IA research.

According to Kotb (2020), the post-Enron era has witnessed a notable shift in IA practices, emphasizing innovation and the adaptation to evolving stakeholder needs. Furthermore, Deloitte's (2018) survey highlights that effective IA groups are not only influential but also innovative, actively seeking to enhance their relevance through the adoption of new methods and technologies. This drive for innovation is crucial for IA to fulfill its mission in the face of changing organizational landscapes.

Despite evident trends towards innovation, many IA functions continue to operate within traditional frameworks, which may hinder progress. It is essential for IA leaders to demonstrate commitment and courage in adopting innovative practices. The identification of ten future trends for IA provides a roadmap aimed at enhancing organizational impact, indicating that proactive engagement with new technologies and methodologies is vital for delivering value to stakeholders (Deloitte, 2018).

A critical area of focus is Extended Enterprise Risk Management (EERM), particularly concerning the management of third-party risks. As organizations increasingly depend on subcontractors and third-party vendors, the associated risks multiply significantly. Global regulatory bodies are intensifying scrutiny over how organizations manage these risks, especially regarding compliance with regulations related to anti-corruption, labor rights, and supply chain management (Kotb, 2020). This regulatory landscape necessitates a robust assurance framework that not only identifies primary vendors but also thoroughly examines subcontractor relationships.

IA plays a pivotal role in promoting effective third-party risk management programs. However, many IA functions currently lack the requisite expertise to provide comprehensive EERM assurance, presenting challenges in adequately addressing these risks. By enhancing their capabilities, IA can offer valuable insights through contract and performance evaluations, identifying opportunities for cost recovery, and ensuring that organizations are well-prepared to manage their extended enterprises (Deloitte, 2020).

In conclusion, future research in IA must expand its scope beyond traditional contexts, incorporating diverse organizational settings and emerging economies. By fostering innovation and enhancing skills in risk management, IA can significantly contribute to organizational resilience and compliance within an increasingly complex global environment.

## **Future Studies**

Future studies, also known as futures research or futurology, represent a systematic and interdisciplinary approach to understanding social and technological advancements along with other environmental trends. The aim is often to explore how individuals will live and work in the future. While predictive techniques such as forecasting can be utilized, contemporary scholars emphasize a systematic exploration of alternatives (Joseph, 2020; Lexico, 2020; Voros, 2020). This field can be regarded as an extension of social sciences, paralleling historical analysis. Futures studies endeavor to discern what aspects are likely to persist and which ones may plausibly change over time.

In contrast to physical sciences that typically focus on narrower systems, futurology addresses a vast and complex global system. Consequently, the methodologies employed as well as the knowledge base, are less rigorously validated compared to those in natural or social sciences, such as sociology and economics. The classification of this discipline, as either an art or a field of science, has been debated; in its early stages, it was sometimes dismissed as pseudo-science. However, futurology has gained traction and legitimacy over time, evidenced by the establishment of the Association of Professional Futurists in 2002 (Hines, 2004) and the development of a foresight competency model in 2017 (Hines, 2017), along with its academic incorporation in various universities.

## **Literature Review**

Kotb et al. (2007) conducted a comprehensive review of internal auditing following the Enron scandal to gain insights into the evolution of IA research. Their study critically assessed existing literature by analyzing 471 articles from 64 journals published between 2005 and 2018. They employed a structured literature review methodology that considered multiple criteria—including authorship, journal type, geographical focus, publication year, research topic, theoretical framework, and methodological approach—to identify gaps and propose future research avenues that could advance the field of internal auditing.

The IA literature did not significantly contribute to IAF knowledge, and still, relatively little is known about factors that make IA performance effective and measurable. The US-dominated IA literature (authors and journals) focuses on the American context (publicly listed companies), relies on positivist analysis, and mostly, does not explicitly refer to theory. Central regions (emerging economies) and core organizational settings (private SMEs and non-profits) are largely absent from previous IA research. This article evaluates and identifies ways in which future research can help IA progress to address emerging challenges. Kotb (2020) first performed a comprehensive review to analyze IA research in the post-Enron period (2018-2015). Ten IA procedures were introduced in 2019. Among the most significant future trends in internal auditing identified in Deloitte's 2018 global chief audit executive survey is that IA groups represent the most effective and influential organizations and tend to be the most innovative. Not content with performing the same tasks in the same ways, they learn how to deliver the assurance, advice, and risk anticipation that stakeholders need when they need it. Furthermore, they employ whatever new methods and technologies are necessary. This is the only way for an IA to fulfill its mission and remain relevant as the organization evolves. Innovation is the theme of "IA insights 2019: High-impact areas of focus," our look at IA trends in 2019. IA work lends itself to new methods enabled by new technologies and new ways of working with stakeholders. Nonetheless, too many IA groups and leaders are mired in traditional roles and relationships that can create resistance to new terms, tools, and approaches. It takes commitment and courage to pursue innovation. As these IA trends clarify, this commitment must originate with IA leaders, who must then develop the courage to initiate innovative changes within themselves and their IA groups. We have identified ten future IA trends to consider when planning IA activities for the year ahead. Download the report and keep in mind that internal audit groups worldwide, across all industries, are already taking these steps to increase their organizational impact and influence. As a result, they have enhanced the value they deliver to stakeholders (Deloitte, 2019). In 2020, a new approach was discussed regarding extended enterprise risk management (EERM) assurance. However, many IA functions lack the experience and skills to go beyond the basics of providing EERM assurance, thus challenging the organization appropriately and delivering the requisite assurance around EERM. IA can identify cost recovery opportunities emanating from contract and performance reviews of third parties as a value add. Finally, any identified skill gaps can be addressed through co-sourcing arrangements, training, and recruitment (Deloitte, 2020). Laban et al. (2020) emphasized that their paper is primarily focused on demonstrating the importance of introducing IAs in companies. This becomes part of the company's management structure by adopting IAs' recommendations from the company's corporate governance body or top management.

IA in a large number of heterogeneous companies contributes to improving the company's overall business by playing a part in the improvement and new business decision-making (Moradi et al., 2020), and identifying factors affecting the future of the presented IA profession factors. This generally improves and modernizes enterprise management.

Top management decisions made based on the recommendations of internal company auditors are less risky. Management risk with management using the decisions and recommendations of IAs has a lower degree of risk. Thus, top management decisions are made with less risk to the survival of the company. Management should be regarded as the governing body of the company. As the governing body, the manager is constantly looking to improve management in the enterprise. The processes for establishing IA mechanisms should be designed to contribute to the structural improvement of any enterprise's overall management concerning the business in which it operates, its size, and the like. IA can help top management by making continuous recommendations to improve enterprise management (Laban, 2020). The definition of the Institute of IAs (IIA) summarizes IA activities as assurance and audit services, aiming at creating value and improving an organization's operations. Assessing the functions based on value creation, it can be assumed that our discussion will continue in the future, and is currently covered in a forthcoming report by the IIA Research Foundation (Eulerich, 2020). However, current studies find that services offered by IA, and hence the degree to which the IIA's definition is fulfilled, may vary. Stakeholders in the profession question whether IA can live up to its assigned role at all (de Vries & Heesakkers, 2019). In recent years, research on IAs has developed significantly. Numerous papers have discussed the importance of IA as a central pillar of the corporate governance system. Through its activities, IA supports the Audit Committee and the CEO/C-Level.

Independent, objective assurance, and advisory functions are designed to add value through the internal control system audit, risk management, and governance processes. Interestingly, research on internal audit rarely corresponds to these added-value concepts defined in the core responsibilities. Therefore, this literature review highlights the added value discussion's possible perspectives and helps define future research avenues (Eulerich, 2020).

Hamzeh et al. (2023) in a research study entitled, *"Investigation of the critical factors of internal audit effectiveness from the perspective of internal auditors: The moderating role of external rewards,"* concluded that the effectiveness of the internal auditor can be determined by a variety of internal resources, including the approval of senior management, independence, aspects of IAD, increased synergy with external auditors, and extrinsic incentives. The findings of this research provide salient insights into the mechanisms by which internal auditors may be empowered to achieve greater effectiveness, particularly through the moderating effect of extrinsic rewards, as proposed by the resource-based view (RBV).

In recent years, the role of the internal auditor has undergone significant changes on a global scale. While still perceived as a policing figure by some, they are now increasingly regarded as central business partners and drivers of value. Among the most important changes and challenges facing internal audit, in addition to those mentioned, the following can be noted:

### **Change #1: New technologies introduce new risks and opportunities**

The advent of artificial intelligence (AI) technology presents significant implications for internal auditors globally. Historically, technology has been harnessed to streamline processes, automate tasks, and alleviate the burdens associated with internal auditing. As AI tools evolve in sophistication, they offer valuable contributions to audit planning, testing, and reporting. Internal auditors are increasingly likely to leverage these advanced tools to address complex challenges, thereby enhancing the efficiency and effectiveness of their audits.

### **Change #2: Technology approaches determine a company's success**

According to the ECIIA's Risk in Focus 2023 report, cybersecurity and information security remain paramount concerns for internal audit leaders. With the introduction of AI and robotic process automation (RPA), organizations must remain vigilant about how these technologies are utilized—both formally and informally—by employees. While it is essential to exercise caution, an emerging risk has been identified: the fear of technology itself. This necessitates that internal auditors develop a comprehensive understanding of the human-technology relationship within their organizations. By monitoring and assessing this relationship, auditors can better anticipate potential risks and facilitate a smoother integration of technological advancements.

### **Change #3: Company values and culture are now recognized as ingredients for growth**

IA defines corporate culture as "the invisible belief systems, values, norms, and preferences of the people who make up an organization." From an internal audit perspective, this has historically been viewed through the lens of compliance and fraud prevention – but now, a wider range of factors must be considered. Today's stakeholders, customers and employees are increasingly concerned with the ethics of the companies they engage with. From the environmental impact of a company's activities to the core values it places on profit-making and the treatment of its employees, stakeholders are eager to understand whether the image a company projects is consistently maintained throughout the organization. Misalignment of values can lead to material losses.

Internal auditors must foster a bond of trust with their colleagues to gain a genuine understanding of their organization's culture. By creating an environment characterized by openness and psychological safety, auditors can monitor compliance more effectively while also obtaining a holistic view of organizational dynamics. This foundational trust enables auditors to provide accurate insights into data interpretation and strategic decision-making.

Moreover, staying attuned to the broader landscape and its potential impacts on the organization is crucial for identifying emerging risks and opportunities. While maintaining their independence is vital, internal auditors can play a crucial role in designing controls, influencing key business decisions, and

selecting appropriate tools. By integrating their external awareness with their intimate knowledge of the organization, they can offer guidance that shapes the future trajectory of the company.

### **The Impact of Technology on Internal Auditing: Challenges and Opportunities**

Technology has profoundly transformed the landscape of internal auditing, introducing both significant challenges and remarkable opportunities. As organizations increasingly rely on advanced technologies, internal auditors must adapt to these changes to effectively fulfill their roles.

#### **Opportunities Presented by Technology**

1. **Enhanced Data Analytics:** The advent of sophisticated data analytics tools enables internal auditors to analyze large volumes of data more efficiently. This capability allows for deeper insights into organizational processes, identification of anomalies, and enhanced risk assessment. By leveraging data analytics, auditors can focus on high-risk areas and provide more strategic recommendations.
2. **Automation of Routine Tasks:** Automation technologies, such as robotic process automation (RPA), streamline repetitive tasks, enabling auditors to allocate more time to complex analyses and value-added activities. This shift not only increases efficiency but also enhances the overall quality of audits.
3. **Real-Time Monitoring:** With the integration of continuous auditing techniques, internal auditors can monitor transactions and processes in real-time. This capability facilitates timely detection of issues, enabling organizations to respond proactively to potential risks and compliance breaches.
4. **Improved Communication and Collaboration:** Technology fosters better communication among audit teams and stakeholders through collaborative platforms and tools. This connectivity enhances knowledge sharing, facilitates remote audits, and improves overall stakeholder engagement.
5. **Access to Advanced Tools:** Emerging technologies, such as artificial intelligence (AI) and machine learning (ML), provide internal auditors with advanced capabilities for predictive analytics and risk assessment. These tools can enhance decision-making processes by providing insights that were previously unattainable.

#### **Challenges Posed by Technology**

1. **Cybersecurity Risks:** As organizations adopt digital solutions, the risk of cyber threats increases. Internal auditors face the challenge of assessing the effectiveness of cybersecurity measures and of ensuring that adequate controls are in place to protect sensitive information.
2. **Skill Gaps:** The rapid pace of technological advancement necessitates internal auditors to acquire new skills related to data analytics, cybersecurity, and emerging technologies. Organizations must invest in training and development to equip their audit teams with the necessary competencies.
3. **Complexity of Systems:** The integration of various technological systems can create complexities in data management and audit processes. Internal auditors must navigate these complexities to ensure comprehensive coverage and effective risk assessments.
4. **Regulatory Compliance:** The evolving regulatory landscape surrounding technology, particularly in areas such as data privacy and cybersecurity, presents challenges for internal auditors. Staying abreast of regulatory changes and ensuring compliance requires continuous monitoring and adaptation.
5. **Dependence on Technology:** Increased reliance on technology may lead to vulnerabilities if systems fail or experience disruptions. Internal auditors must evaluate the robustness of technological solutions and develop contingency plans to mitigate potential risks.

In conclusion, technology is reshaping the field of internal auditing by presenting both challenges and opportunities. While the integration of advanced tools and techniques enhances the efficiency and effectiveness of audit processes, it also necessitates a proactive approach to managing associated risks. To thrive in this evolving landscape, internal auditors must continuously adapt, upskill, and embrace innovation while maintaining a strong focus on governance, risk management, and compliance.

As the reliance on manual data entry diminishes, the potential to generate greater value within the internal audit function expands. Continuous learning, proficiency in technology, critical thinking, adaptability, and resourcefulness will become paramount in this evolving landscape. Furthermore, this evolution underscores the profession's potential in internal auditing (IA) while also highlighting existing weaknesses and gaps identified in current research.

Conducting studies focused on pertinent professional topics, alongside employing diverse methodologies for future research, can significantly enrich the relevant literature and pave the way for successful advancements.

Moreover, in light of the rapid changes occurring within society and the increasing complexities of governance in both public and private sectors, there is a pressing need for accountability among government officials. The scrutiny of financial and operational governance concerning the allocation and utilization of public resources has intensified, reflecting the interests of citizens who are the rightful stakeholders in these matters. It is imperative for these officials to address the challenges that lie ahead.

In today's swiftly transforming business environment, internal auditors must embrace the transformative capabilities of emerging technologies to enhance the efficiency, effectiveness, and depth of their audit processes. It is essential for both governmental and non-governmental organizations to establish training programs aimed at equipping internal auditors with the requisite knowledge and skills to adeptly utilize modern tools. This initiative will optimize risk management practices within audit processes and yield valuable insights for organizations.

## Methods

Several factors have influenced the evolution of the internal auditing profession in recent years. In addition to corporate scandals at the turn of the century that prompted a tightening of regulatory frameworks, globalization, advancements in information technology, and economic fluctuations have significantly altered professional structures and responsibilities (Parker, 2017).

The goal is not to predict a single, most probable future scenario rather to systematically develop a range of possible future scenarios based on different development paths for the most relevant influential factors. Particularly in volatile times, marked by complex interactions, thinking about even seemingly improbable combinations of future developments can be a crucial determinant of long-term competitive success. The expanded application of scenario analysis to business practices has prompted increased attention in the sciences as well. A sharp increase in relevant publications can be observed, especially from the 1980s until 2010 (Quiceno, 2019). Scenarios are often confused with other tools and approaches to planning. The flowchart to the right provides a process for classifying a phenomenon as a scenario in the intuitive logic tradition (Spaniol, 2019). Critics of using a subjective and heuristic method to deal with uncertainty and complexity argue that the technique has not been examined rigorously nor influenced sufficiently by scientific evidence. They caution against using such methods to "predict" based on what can be described as arbitrary themes and "forecasting techniques."

Another challenge of scenario building is that predictors are part of the social context about which they are attempting to make a prediction and may affect that context in the process. As a consequence, societal predictions can become self-destructive. For example, a scenario in which a large percentage of a population will become HIV infected based on existing trends may cause more people to avoid risky behavior, thereby reducing the HIV infection rate and invalidating the forecast (which might have remained correct if it had not been publicly known). A prediction that cybersecurity will become a significant issue may prompt organizations to implement more robust cybersecurity measures, thereby limiting the issue (Overland, 2019).

Our methodological approach consists of three phases, forming a structured process for the systematic development of scenarios. Initially, we organized a series of workshops involving national and international experts, ensuring representation from each key stakeholder group, including auditors, IT specialists, clients, policymakers, and journalists. Utilizing the extensive insights gathered from this expert panel, we conducted a pairwise evaluation to assess the impact strengths of each factor on others within the comprehensive set of influential factors.

With this robust database, we analyzed the interactions among these factors to identify the most critical influences. Subsequently, we developed future projections for each key factor, representing potential alternative developments. These projections were then integrated with one another to create an extensive array of "raw scenarios," which required refinement for practical application. The reduction process involved multiple steps, including consistency analysis, cluster analysis, and multidimensional scaling (Section 1.2).

Research project 1 involved representatives from all groups of auditors and other stakeholders, taking approximately 24 months to complete. We defined a scenario field that determines the range of

investigation for the scenario analysis (Figure 1). It consists of eight areas of influence that are of great importance for the profession's prospects. The sector of auditors demonstrates the central sector. The other areas of influence either pertain to the specific environment surrounding the auditors (competition, clients, the stakeholder of the clients, regulatory framework, and IT) or reflect the general environment, such as economic and political environment, education, and society (Schoemaker, 2020).

In conclusion, by adopting a structured approach to scenario development, internal auditors and accounting professionals can better navigate uncertainties and complexities inherent in their environments. This proactive stance not only enhances strategic decision-making but also positions organizations to respond effectively to emerging challenges and opportunities in the accounting landscape.

As the reliance on manual key inputs diminishes in work activities, the opportunity to create greater value emerges. Continuous learning, collaboration with technology, critical thinking, flexibility, and resourcefulness will become increasingly vital in this evolving landscape. This shift underscores the profession's potential in internal auditing (IA) while also highlighting existing gaps and shortcomings identified in recent research. Addressing these weaknesses is crucial for advancing the field.

Conducting studies related to professional topics and employing diverse research methodologies will contribute to a richer body of literature in this domain, paving the way for success. Additionally, the rapid pace of change in contemporary society, coupled with advancements in governance within states and large institutions, places increased accountability on government officials. The financial and operational governance of education, resource consumption, and the utilization of public assets has come under scrutiny, emphasizing the need for transparency and responsibility to citizens, who are the rightful stakeholders in promoting effective governance.

In today's fast-evolving business environment, internal auditors must adapt to the transformative impact of emerging technologies to enhance the efficiency, effectiveness, and insightfulness of their audit processes. It is essential for both government and non-government organizations to develop training programs that equip internal auditors with the necessary skills and knowledge to leverage modern tools effectively. Such initiatives will optimize risk reduction in audit processes and provide valuable insights that drive organizational success.

## Research Process

The participants in this study encompassed a diverse group of individuals engaged in the field of internal auditing, including academics, internal audit (IA) directors, and career policymakers. Given the constraints of time and resources inherent in futures research, 100 invitations were extended to members of the target population for participation in the study. From this outreach, 30 individuals expressed their willingness to participate. Consequently, the research team selected an equal distribution of participants: 10 auditors, 10 university professors, and 10 IA managers, to contribute to the research process. The results of the descriptive statistical analysis are summarized in Tables 1 and 2.

**Table 1. Descriptive Statistics of Research Data**

Education	Frequency
Expert	7
MA	15
PhD	8
Total	30

**Table 2. Employment Status in Universities and Research Institutes or the Professional Community of All Respondents**

Situation	Frequency
Faculty member	10
Certified public accountant not employed in the internal audit profession	7
Researchers	3
Certified public accountant in the profession of internal audit	2
Non-certified internal audit manager	8
Total	30

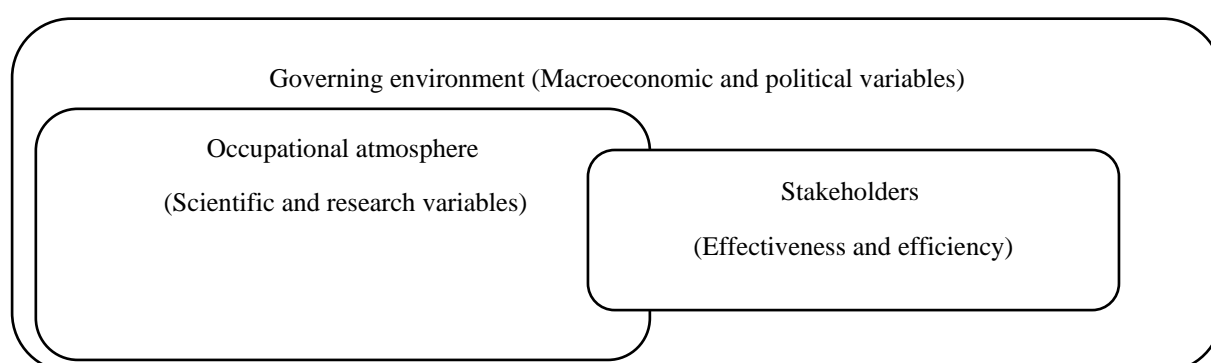


## Research Method

To facilitate comprehensive discussions, five specialized workshops were organized, each comprising six members, based on geographical location and availability (both in-person and virtual formats). An initial questionnaire was disseminated among all participants prior to the workshops. During these sessions, attendees engaged in discussions, evaluations, and provided feedback, leading to the identification of key influential factors. The outcomes of these workshops are illustrated in a conceptual model presented as Model 1, which delineates the domains impacting the future of the internal auditing profession.

## Findings

Upon identifying the primary factors, their interrelations with the theoretical framework of internal auditing in Iran were scrutinized, and relevant variables were reviewed. Ultimately, the specialized working group reached a consensus on nine critical areas influencing the accounting profession within the public sector (Figure 1).



**Figure 1. Identification and Analysis of Key Factors Influencing the Accounting Profession in Iran's Public Sector**

Table No. (8) Factors Affecting the Future of the Internal Accounting Profession Based on the Underlying Variables were presented as follows:

**Table 3. Factors Affecting Internal Auditors**

No.	1. Accounting and auditing profession	No.	3. Technology
1	Withdrawal of independent auditors from the internal audit profession	1	Development of future audit (continuous)
2	Issuance of professional licenses for internal auditors	No.	4. Economic environment
3	Journals and researchers welcome the internal audit profession	1	Reduction of production and sales of oil
4	Development of institutions supporting internal audit	2	Intensification of economic sanctions on Iran
5	Quality of internal auditors' reports	3	Budget deficit
7	Establishment and development of IT-based auditing	4	Economic recession
No.	2. Political environment	5	Continuation of privatization
1	Government determination to fight corruption	No.	5. Social and organizational factors
2	Public disclosure of internal auditors' reports	1	Changing the attitude of accounting and auditing professionals
3	Parliamentary oversight for economic transparency	2	Creating a culture and promoting internal auditing
No.	6. Beneficiaries	No.	7. Rules and standards
1	Stakeholder confidence and trust in internal auditors	1	Laws governing public organizations and institutions
2	Demanding stakeholders to detect fraud and distortion	2	Binding rules for internal auditors
3	Investing in an internal audit unit	3	Professional supervision rules
	Strong support of the Board of Directors and the Audit Committee	4	Laws governing supervisory organizations and institutions
No.	8. Quality of human resources	5	Laws and requirements governing the money and capital markets
1	Competence of the internal audit director	6	Obligation to comply with the internal audit charter
2	Staff training	No.	9. Environment and other areas
		1	Advice to management for comprehensive control of the organization

## Effect Analysis

Following the identification of factors impacting the future of the internal auditing profession, a quantitative assessment of each factor was conducted through a structured survey. This survey comprised two principal stages. Initially, respondents were tasked with identifying and prioritizing the most significant factors affecting the future of the IA profession from those presented in Table 1. In a subsequent phase, participants completed a distinct questionnaire designed to populate a matrix that elucidated the relationships between identified factors and their relative importance (Kayser, & Shala, 2020).

The matrix shows the priority and nature of each of the identified factors affecting the future of the IA profession and the results obtained from the survey. According to experts in various fields that have been questioned in this study, these results indicated that the environment's governing rules and regulations will have the most and the least effects on the future of IA in the next decade, respectively. The survey results identified the most important factors influencing the future of the public sector accounting profession and their fields.

## Key Factors

The effect analysis test was conducted in the final phase to ascertain the factors influencing the future of the IA profession (Drewel et al., 2020). Drawing from the data collected in previous stages, this test served to evaluate and compare identified factors with respect to their anticipated impact over the next decade. The findings from this analysis revealed several factors that exhibited significant similarities or contradictions in nature. Consequently, some factors were excluded while others were merged or integrated. Table 4 presents the results of implementing the effect analysis test in the form of key and final factors affecting the future of the IA profession.

**Table 4. Factors With an Important Effect on the Future of the Internal Audit Profession**

Theme	Factors
Rules	Laws governing public organizations and agencies
	Professional supervision rules
	New standards
Technologies	Continuous audit development
Economic environment	Reduction of government resources
Accounting and auditing profession	Issuance of professional licenses for internal auditors
	Establishment of internal audit firms
Stakeholders	Investment in an internal audit unit
	Strong support of the Board of Directors and the Audit Committee

The most likely options for the future of each of these factors must be identified and presented after the identification and explanation of the key factors affecting the future of the internal audit profession. To this end, two specialized workshops were held to identify at least two areas of ambiguity regarding each of the key factors in the future. Developing these areas of ambiguity helps us to explain and understand the expected and probable options for the future of each key factor. Table 5 summarizes the results of the specialized workshops on identifying, expanding, and developing areas of ambiguity regarding each of the key factors affecting the future of IA profession.

## Combination and Integration of Forecasting Plans to Develop a Scenario

In previous steps, the aim was to achieve the most probable scenario regarding the future status of each key factor affecting the future of public sector accounting. In this section, we will develop and explain final scenarios for the future of public sector accounting in the next decade by combining different options related to each of the critical factors. We will be faced with a large number of scenarios that can be designed. Therefore, it is necessary to eliminate improbable and irrational scenarios and to combine scenarios that share many similarities in terms of substance. For this purpose, it was necessary for a number of scenarios to be systematically highlighted and finalized without missing out on useful information (Zoet et al., 2020).

In this stage (third step, which involves the internal adaptation of the proposed scenarios), the content adaptation of the mentioned scenarios with the expected future conditions, and the compatibility between a specific scenario and other scenarios can be demonstrated by using the

compatibility analysis method (Koike & Hofert, 2020). Scenarios are combined based on the fuzzy cognitive map method. As a result, the most probable results are presented as five possible final scenarios concerning the future of public sector accounting in Table 6.

**Table 5. Expanding the Areas of Ambiguity about Each of the Key Factors**

Key factors	Field of ambiguity
Elimination of independent auditors from the internal audit profession	A) Establishment of internal audit institutions B) Exam holding and professional qualification granting
Competencies	A) How to appoint competent people as the director of internal audit B) Staff training and their ranking
Stakeholder support	A) How to support minority shareholders B) Investment in internal audit
Laws governing public organizations and institutions	A) Requirement of institutions and organizations to be established in internal audit B) New and binding standards
Professional supervision rules	A) Obligation to submit an internal audit report within a certain framework for listed companies B) Duties and scope of responsibilities C) Localization of international standards D) Approval of applicable laws to guarantee supervisory objectives
Laws governing supervisory organizations and institutions	A) Outsourcing of internal public sector auditing B) Creation of an integrated audit report
Development and strengthening of audit software	A) Establishment of an integrated system of continuous auditing B) The requirement of an IT-based audit organization C) Requirement of auditing firms to handle and collect IT-based taxes
Weakening of the state economy	A) Reduction of resources B) Optimal resource consumption mechanism C) Internal audit supervision over the allocation of large resources D) Modification of the supervisory model of the Court of Audit E) Obligation and support of internal auditors in disclosing tax evasion F) Development and support of internal auditors of banks J) Obligation and support for internal auditors in disclosing money laundering cases

**Table 6. Results Related to the Future of the Internal Audit Profession**

**Scenario 1: The most significant obstacle**

As globalization accelerates, the economies of the United States, China, and Europe are increasingly competing on a global scale. In this context, businesses will prioritize the efficiency and effectiveness of internal auditors as a means to mitigate risks and ensure survival in international markets. Influenced by international laws and standards, our country is expected to adopt similar frameworks, necessitating that both public and private sector organizations adapt to significant regulatory changes, including those related to anti-money laundering and other pertinent regulations.

In light of these developments, the integration of specialized courses in internal auditing into academic curricula is deemed imperative. Such educational initiatives aim to cultivate a skilled workforce capable of addressing the evolving demands of the market and complying with regulatory requirements. However, one of the primary challenges hindering this progress is the scarcity of financial resources within both public and private sectors. This limitation poses a significant barrier to the comprehensive establishment of internal auditing as a critical function, ultimately constraining the profession's potential for rapid growth.

To fully realize the future potential of internal auditing, it is essential to foster close collaboration among universities, organizations, and regulatory bodies. This partnership can facilitate the development of necessary infrastructure to support education and promote the profession. Furthermore, an emphasis on adapting to global changes and embracing innovations in internal auditing processes will be crucial to effectively navigate the challenges ahead.

**Scenario 2: Coming out of the cocoon**

The anticipated economic recession is poised to significantly impact Iran's business landscape, necessitating a reevaluation of the internal auditing profession. In this challenging environment, the demand for rigorous monitoring and reporting practices will become paramount to enhance the effectiveness and efficiency of resource utilization. Consequently, the role of internal auditors will be increasingly critical in providing precise and reliable reports within public sector entities.

The prevailing stringent economic conditions are likely to escalate the risks of financial losses for state-owned enterprises and exacerbate budget deficits. This situation heightens the potential for legal liabilities, thereby intensifying the responsibilities associated with the internal auditing profession. Concurrently, negative media coverage surrounding bankruptcies and embezzlements may adversely influence stakeholders' perceptions of accreditation services, further complicating the situation for internal auditors.

In response to these challenges, it is imperative for legislators and regulatory bodies to intensify their efforts in enhancing oversight mechanisms for public sector finances and publicly listed companies. This can be achieved through the enactment of relevant regulations and standards that promote transparency and accountability.

**Table 6.**

Moreover, given the prevailing negative societal perceptions and limited financial resources allocated for auditors—particularly in relation to accreditation services—stakeholders may increasingly seek to fulfill their information needs by engaging private sector experts and leveraging advanced information technology tools. This includes the adoption of service-oriented, proactive software systems that are preventive and centralized in nature, as well as attracting specialized and competent personnel.

As new regulations and standards come into effect, internal auditing is expected to emerge as a highly regarded profession, leading to the establishment of dedicated internal audit institutes. This evolution will not only enhance the credibility of the profession but also contribute to the overall improvement of governance and accountability in Iran's economic framework.

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**Scenario 3: Jump on the platform of success**


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The current international economic climate, coupled with domestic economic conditions, has led to a pervasive state of recession across various countries. This scenario presents a critical challenge for businesses and organizations. In response to constrained resources, organizations will prioritize streamlining operations as a vital strategy for enhancing efficiency. This involves the elimination of non-value-added activities, re-engineering existing systems, and advocating for the adoption of simplified processes during operational stages. Furthermore, it necessitates a reduction in unnecessary tasks and an adaptation to evolving environmental regulations.

Simultaneously, the prevalence of regionally controlled markets results in an extensive and diverse array of laws and regulations governing economic activities. In this context, state-owned enterprises are increasingly likely to seek consulting services from the private sector to mitigate the risks associated with substantial financial losses. Consequently, this trend is expected to render the market for consulting firms more appealing and lucrative.

As the landscape evolves, internal auditors are poised to assume new responsibilities, particularly in light of the rapid advancements in technology. This transformation positions internal auditors as pivotal figures within both for-profit and non-profit enterprises in Iran, highlighting their significance in navigating the complexities of the modern business environment.

Moreover, a failure to meet the expectations set forth by the community of independent auditors may lead to a reinforcement of the relative independence of internal auditors. This shift could result in the removal of unqualified internal audit directors, thereby enhancing the overall credibility and effectiveness of the profession.

In summary, the future of internal auditing in Iran is characterized by challenges and opportunities that necessitate a proactive approach to adapt to changing economic conditions, regulatory landscapes, and technological advancements.

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**Scenario 4: Epidemics in all areas**


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As the period of economic decline and recession in Iran approaches its conclusion, we anticipate a new phase of economic growth characterized by enhanced collaboration between internal auditors and management. In this evolving landscape, the role of the internal auditor is going to transform significantly. Internal auditors will increasingly function as management consultants, particularly concerning internal control issues, thereby expanding their influence within organizations.

This shift necessitates that internal auditors develop competencies beyond traditional auditing practices. They will need to engage with a broader spectrum of knowledge, particularly in areas such as environmental auditing, as well as social, economic, and political issues that impact organizational operations. Consequently, the internal auditing profession will require auditors to acquire interdisciplinary knowledge and skills to effectively navigate these complexities.

Furthermore, internal audit executives will increasingly depend on the expertise of professionals from various fields to enhance their effectiveness and adapt to the dynamic business environment. This interdisciplinary approach will not only enrich the internal audit function but also ensure that auditors are well-equipped to address contemporary challenges and contribute significantly to organizational success.

In summary, the future of internal auditing in Iran is poised for significant transformation, with a strong emphasis on collaboration, interdisciplinary learning, and a proactive approach to emerging issues in the economic landscape.

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**Scenario 5: Like before, slow, and isolated**


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The landscape of internal auditing in Iran is poised for significant change, shaped by the dual forces of economic growth and globalization, alongside persistent challenges such as sanctions and economic stagnation. As these dynamics unfold, the evolution of the internal audit function will be influenced by several critical factors.

Despite the potential for economic growth, the reality of widespread bureaucracy and the absence of coherent legislative frameworks will likely hinder the advancement of internal auditing practices. The ongoing privatization process appears stagnant, and the fiscal challenges facing state-owned enterprises—exemplified by budget deficits and instances of bankruptcy—do not seem to catalyze a revival in internal auditing or enhance economic transparency.

In this context, there is a notable shift in focus towards risk management within internal auditing. The expectations of boards of directors and management regarding internal auditors are escalating, with an increasing demand for auditors to provide insights that mitigate risks and prevent unforeseen challenges. This heightened emphasis on risk will redefine the scope of internal auditing, compelling auditors to adapt their methodologies and reporting practices to meet these evolving expectations.

As the role of internal auditors transitions towards a more consultative approach, they will be tasked with not only identifying risks but also facilitating strategic discussions around risk management. This evolution will necessitate a rethinking of how internal auditors communicate their findings, emphasizing proactive engagement with management and the board to ensure that potential risks are effectively anticipated and managed.

In summary, while the future of internal auditing in Iran faces significant obstacles, the profession is also presented with opportunities to redefine its role in response to changing expectations. By embracing a risk-centric approach and enhancing their reporting practices, internal auditors can position themselves as vital partners in organizational governance and decision-making processes.

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## Conclusion

The subject of this article has been classified as futures studies, which examines and explains possible future IA events in the next decade. This research focused on the formulation and development of five scenarios (Table 6). Each of the scenarios describes possible future events in the profession. In the coming decades, the internal audit profession will undergo major transformation driven by accelerating technological advancement, significant disruptive trends, and emerging risks. The characteristic of this evolution will be changes in the way organizations operate, the need to expand the pipeline of professional talents, and increasing the capacity and prestige of the profession in the eyes of the stakeholders to audit new and emerging risks. Now, the question that arises in connection with the aforementioned research is how the proposed scenarios help the stakeholders of the profession. First, it can be pointed out that drawing possible options for the future and examining their conditions and characteristics provide research users with the opportunity to face themselves and encounter the challenge. It also prepares the leaders to take advantage of future opportunities. However, the research can help researchers, legislators, and policymakers in the IA profession to direct the developments and achieve the desired and desired future to a considerable extent. Identifying the key factors influencing the future of this profession makes it possible for policy-making elements at the professional level to pay attention to the red and green lights in the scenarios and identify the existing strengths. In a future shaped by technological innovation and collective efforts to address global challenges, the role of internal auditors will become that of strategic advisors. Technology brings new challenges and opportunities to the world of internal auditing. As manual clicking is removed from work activities, the opportunity to create more value opens up. Continuous learning, working with technology, critical thinking, flexibility and resourcefulness will become more important than ever. In addition, it highlights the profession's potential in IA and weaknesses (gaps and shortcomings) and other key cases and factors identified in the research to take an effective step. It is obvious that conducting such studies with profession-related topics and using other methods of conducting future research studies, and finally obtaining rich literature in this field of research can be a sure way to achieve success.

On the other hand, due to the high speed of change in human societies in the current world and the increasing developments in the field of governing the affairs of states and large institutions, government officials are expected to be held accountable. The financial and operational governance of education, consumption, and utilization of public resources has been seriously examined, and the level of this responsibility is in the interest of the citizens, who are the main owners of the right to promotion. They must take action with the challenges ahead. In today's rapidly evolving business landscape, internal auditors must adapt to the transformative power of emerging technologies to increase efficiency, effectiveness, and insight into their audit processes. It seems necessary to create training courses to equip internal auditors with the necessary knowledge and skills to effectively use modern tools, provided by the trustees of government and non-government sectors in the country, to optimize risk reduction audit processes and provide valuable insights to organizations.

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